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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/786,718

02/24/2004

Mark Banister

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EXAMINER

FREAY, CHARLES GRANT

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

01/02/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/786,718	<b>Applicant(s)</b> BANISTER, MARK	
	<b>Examiner</b> Charles G. Freay	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 8-14, 16, 18 and 27-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 15, 17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 17, 2008 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(n) as being anticipated by Culp as set forth in the rejection of Culp as set forth in the office action of March 5, 2008 .

Claims 1, 3, 4 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by da Costa as set forth in the office action of March 5, 2008.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Culp or da Costa as set forth in the office action of March 5, 2008. It is noted that in that office action the examiner gave official notice that piezoelectric ceramics and piezoelectric ceramics are well known piezoelectric actuators and the applicant did not challenge this position. This is taken as an admission that piezoelectric ceramics and piezoelectric ceramics are well known prior art piezoelectric actuators.

Claims 19-21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culp or da Costa in view of Chinn et al as set forth in the office action of March 5, 2008.

***Response to Arguments***

Applicant's arguments filed October 17, 2008 have been fully considered but they are not persuasive.

With regards to the Culp reference the applicant argues that the waveplates are composed of dimorphs which have sides that move in position relative to one another when an electrical field causes translation of one electrode relative to another. Further the applicant argues that the material of Culp does not expand to create a change in the dimensions of the actuator. The examiner respectfully disagrees.

In Culp the sides of the actuator do not move when the electrodes move. The electrodes are attached to the sides of the dimorph. The dimorph deforms when the electrodes are stimulated, not the other way around.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the actuator not expanding) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner notes that what the claims set forth is that the material expands in at least one direction. "Expand" is defined as "to increase the size, volume, quantity or scope of". Thus Expand in at least one direction would limit to a change in a certain direction. As shown in the progression from Fig. 1 to Fig. 2 the actuator expands vertically by increasing in size and dimension in this plane. The examiner also notes that there is also a corresponding smaller decrease in width of the actuator by this movement. Therefore the references meets the claim limitations.

With regards to da Costa the applicant argues centers on the actuators being the same size. The examiner notes that the amendment of October 17, 2008 specifically removed the limitation of the actuators being the same size. Thus this limitation is not part of the claims and the applicant's arguments do not overcome the reference. Furthermore, the examiner notes that the prior art discloses many similar devices having actuators of the same size which would make obvious the invention which

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applicant has argued. See for example some of the references cited but not applied with this office action.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Upton, Bar-Cohen, and Bar-Cohen et al disclose similar pumps for moving a fluid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Freay whose telephone number is 571-272-4827. The examiner can normally be reached on Monday through Friday 8:30 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/  
Primary Examiner  
Art Unit 3746

December 31, 2008